

BOOK REVIEW

The Ferns and Allied Plants of New England by A. F. Tryon and R. C. Moran. 1997. xv + 325 pp. black and white photos, SEM micrographs, line drawings, silhouettes, and maps. ISBN 0-932691-23-4 \$49.95 (cloth). Massachusetts Audubon Society, Lincoln, MA.

Scientific writing is one of the many forms of literary expression. It is the art of communicating one's understanding of the nature and workings of our physical and biological surroundings. In their book, *The Ferns and Allied Plants of New England*, Tryon and Moran demonstrate a real talent for conveying their knowledge of the biology and their appreciation of the natural beauty of these distinctive members of our flora. This handsomely bound and richly illustrated treatment of our native ferns, horse-tails, and lycopods is worth owning for its wonderful photographs and illustrations alone. The color photograph of the Hay-Scented Fern colony on the jacket is especially alluring; it evokes memories of the splendor of a walk through the woods on a beautiful summer day.

The Ferns and Allied Plants of New England is the first book devoted to the free-sporing vascular plants of New England in 50 years and includes treatments for 92 species in 31 genera belonging to 14 families. The authors have skillfully employed a combination of fine black and white photographs, leaf silhouettes, and line drawings to illustrate the characteristics of these plants. Each species is illustrated with a photograph. The majority of these are from the collection of Robert L. Coffin, an amateur naturalist and photographer from Amherst, Massachusetts, who photographed most of the ferns of his region between 1918 and 1942. Leaf silhouettes are included to clarify aspects of leaf shape and dissection which are difficult to describe, but are useful in distinguishing species belonging to the same genus. Line drawings prepared by Robbin Moran illustrate technical characteristics that need to be observed in order to discriminate between species of the more difficult groups, such as the woodsias and horsetails.

It is evident that much thought went into planning the format of the text. Following the Table of Contents, Foreword, Introduction and Acknowledgements, is the List of Families, Genera and Species with both Latin and common names. The list is fol-

lowed by the Key to Genera and a description of the General Plan of Generic Treatments. The next two hundred and fifty pages enumerate the genera and species of ferns and allied plants. Five Appendices include material on subjects relevant to the ferns treated in the main text. These comprise Scanning Electron Micrographs of Spores, Geology and Climate, Ferns for the Garden, a Glossary and a list of References. The book concludes with an index to both Latin and common names with the currently accepted Latin names listed in bold type.

It should be remembered that it is not usually possible to prepare a monographic or floristic treatment that can be regarded as the "final word" on the subject. Additional exploration often leads to the discovery of new localities for species so distribution maps are almost never final. In this regard, the authors refer to the work of Angelo and Boufford (1996) where new information on the distribution of species and hybrids may be found. New research methods provide new data that change our understanding of the taxa that comprise a flora. New species are recognized and some of our old concepts must change if we are to portray biological diversity as accurately as is possible. And, the interpretation of how the new data are best translated into a classification system varies somewhat from one taxonomist to the next. This is affected, to some degree, by the authors' objectives in preparing the book. For example, if the primary objective is to provide an easy-to-use reference that will enable more people to explore, enjoy, and hopefully develop the desire to conserve the diversity of ferns and other free-sporing plants in our region, the authors may choose to omit some of the technical research detail in order to make the book accessible to a larger number of readers. There is a real need for books that increase the awareness and interest of the people of New England to appreciate and conserve our biodiversity. Thus, although we might be tempted to fault the authors for omitting a few taxa which many fern specialists would recognize, or for omitting descriptions of the families included in the list in the front of the book, I believe they have achieved a remarkably good balance between maintaining accessibility to the non-specialist and the inclusion of detail of interest to the expert. Not everyone who becomes interested in ferns does so because these plants have unusually high chromosome numbers or because they have life histories that provide unique research opportunities. Many people first become interested because ferns are

beautiful and this aspect of fern diversity is exceptionally well portrayed in Tryon and Moran's work.

Several features of this book are especially noteworthy. The use of world distribution maps along with New England county-level maps enables the reader to appreciate the biogeographic context of each species at a glance. Some of our locally abundant species such as the Christmas Fern and the Marginal Wood Fern take on new significance. These are not just common ferns, they are taxa that are endemic to Eastern North America. Others, such as the Male Fern, a rarity in New England, have a much broader distribution and it can be seen that such plants are more widespread in other parts of the world. The inclusion of scanning electron micrographs of the spores of each species will be especially useful to amateur and professional ferners alike. The reader will have a clear image of the appearance and size of a "normal" spore. This will help users to identify abnormal spores typical of hybrids and the larger than usual spores characteristic of polyploids. There are undoubtedly a few polyploids still waiting to be discovered in the fern flora of New England. The Appendix on the Geology and Climate of New England reveals the complexity and great age of the historical events that have shaped our landforms, soils, and climate and have thus affected the distributions of ferns, both fossil and extant. This helps to explain why some ferns grow where they do.

Although the price is higher than one might expect to pay for a field guide, this book is a great value at \$50.00. The book is beautifully designed, it is packed with information, and will be the main reference work on the ferns, horsetails, and lycopods of New England for a long time to come.

LITERATURE CITED

ANGELO, R. AND D. E. BOUFFORD. 1996. Atlas of the Flora of New England: Pteridophytes and Gymnosperms. *Rhodora* 98: 1-79.

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